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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/058,064      | 01/29/2002  | Tatsuo Nakajima      | 100725-00070        | 3685             |

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EXAMINER

HOOK, JAMES F

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3752

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/058,064

Applicant(s)

NAKAJIMA ET AL.

Examiner

James F. Hook

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Yates (626). The patent to Yates discloses the recited plastic pipe comprising a fibrous layer which can be formed in various angles including an angle of 0 degrees with the longitudinal axis where the reinforcement is made of a plurality of bundles of one of many different fibers or mixtures thereof where the fibers can be glass or carbon fibers having various modulus of elasticity which fall within the recited range of claim 3, further an reinforced fiber sheet can be provided as set forth in column 5, lines 13-19, and the thickness of these layers can be seen to be within the claimed range of claim 6 as set forth in examples I and II, where the pipe can be formed by a pultrusion method, and the outer layer 4 can be seen to have fibers running circumferentially around the shaft.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being obvious over Nakajima in view of Yates (626).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2). The patent to Nakajima discloses the recited fiber reinforced plastic pipe formed of a longitudinally slit sleeve which can be placed within a drive shaft, where the sleeve is made by pultrusion, the fibers are parallel and

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can run longitudinally, a plurality of layers can be provided, the sleeve can be held in by adhesive, various pipe thicknesses are disclosed, and the fibers are known to be as strong as those set forth in Yates and would therefore inherently have the same elasticity. The patent to Nakajima discloses all of the recited structure with the exception of forming the reinforcing fibers into bundles, forming the extra layers as sheets, and some of the specific properties of the extra layers, however it is considered an obvious choice of mechanical expedients to form the extra layers of any specific elasticity and basis weight using routine experimentation to arrive at optimum values as such only requires routine skill in the art. It would have been obvious to one skilled in the art to modify the fibers in Nakajima to be formed of bundles and to form the extra layers as sheets circumferentially disposed as suggested by Yates as such would provide for a stronger sleeve that would be more resistant to shock and provided with greater reinforcement.

### ***Response to Arguments***

Applicant's arguments filed April 30, 2004 have been fully considered but they are not persuasive. It is considered that the layer 4 is a circumferentially wrapped on layer forming a sheet which has fibers disposed circumferentially around the shaft which meets the claim language. With respect to the combination of Nakajima (606) with Yates, it is considered inherent that the materials used in Yates have high flexural rigidity, and both references are dealing with fiber reinforced plastic pipes used in drive shafts, therefore the materials would need the same type of strength. With respect to

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Yates being a single piece, Yates discloses that it's structure is used to replace two part structures where such would lessen the number of parts needed to make up the shaft and such is an improvement. Yates provides support that the fibers used in Nakajima are known in the art and the known required strength and elasticity for use in drive shafts, therefore the argument that Nakajima aren't strong enough is not considered persuasive when it is considered one skilled in the art would only need routine experimentation especially in light of the teachings of Yates to form the fibers of specific values to meet the needs of the user, specifically for use as a drive shaft member. Also, these features are inherent to the material used and even though Nakajima does not disclose what values these fibers contain, it is considered that Yates assists in teaching that such strengths are known properties of fibers used in reinforced plastics used for drive shafts. Upon modification of Nakajima by Yates, Yates provides the extra layers including the outer layer which is circumferentially disposed, and the materials used for this layer would inherently have the same properties as per the argument above and would be obvious to be chosen based upon the teachings of Yates and inherently what materials are used for fiber reinforced plastic layers used for shafts.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Owen, Nakajima (209 and 591), and Wellman disclosing state of the art reinforced plastic sleeves and transmission shafts.

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**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

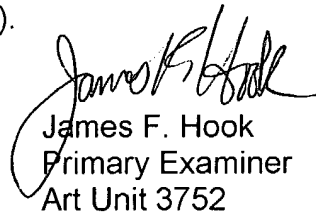
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James F. Hook whose telephone number is (703) 308-2913. The examiner can normally be reached on Monday to Wednesday, work at home Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on (703) 308-2087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James F. Hook  
Primary Examiner  
Art Unit 3752

JFH